

**Notes from the Upper Rio Grande Basin Water Operations Review ID NEPA  
Team Meeting, March 9, 2000, 1:00 PM, Corps of Engineers, Albuquerque  
District**

*In attendance:*

|   |                                       |
|---|---------------------------------------|
| Scott Anderholm, USGS                           | Tracy Matthews, ISC                   |
| Jon Cote, Pueblo of Santa Ana                   | Nic Medley, NMG&F                     |
| John D'Antonio, NMOSE                           | Robert Padilla, Bureau of Reclamation |
| Theresa Davidson, USFWS                         | Cynthia Piirto, Corps                 |
| Ellen Dietrich, SAIC                            | Steve Piper, Bureau of Reclamation    |
| Darrell Eidson, Corps                           | Gary Rutherford, Corps                |
| Richard Fike, Corps                             | Marc Sidlow, Corps                    |
| Don Gallegos, Corps                             | Tod Stevenson, NMG&F                  |
| Chris Gorbach, Bureau of Reclamation            | Gail Stockton, Corps                  |
| Rhea Graham, Pueblo of Sandia                   | Paul Tashjian, USFWS                  |
| Mark Harberg, Corps                             | Julie Tsatsavos, NMED                 |
| Conrad Keyes, Jr., Consultant                   | Doug Wolf, Corps                      |
| Charles Lujan, Pueblo of San Juan               | Mark Yuska, Bureau of Reclamation     |
| Julie Maitland, NM Department of<br>Agriculture |                                       |

- ❖ After introductions, Gail Stockton introduced Don Gallegos, to discuss water operations management of Corps reservoirs.
  - Platoro
    - 6000 acre-feet (af) of storage for flood control
    - Determine releases based on snowmelt runoff forecasts and storage curves developed by the Bureau of Reclamation. Managers work with Colorado to determine inflows.
    - Try to maintain 1600 cfs at the Los Sauces gage on the Conejos River and 2500 cfs at the Mogote gage on the Conejos River.
  - Abiquiu
    - Purpose is flood control, sediment control, and water supply management.
    - Currently there is no native water storage in Abiquiu, only storage of San Juan-Chama water.
    - The inflow peak during snowmelt runoff is generally between 2500 and 3500 cfs, and the channel capacity downstream is 1800 cfs.
    - After July 1, when the natural flow at Otowi gage goes below 1500 cfs, any floodwater in storage is retained through the summer and is released after November 1. This water must be fully evacuated by March 31 of the following year.

- In making management decisions, operators try not to inundate the rafting take-out areas.
- Managers provide information to acequias on flows, such as when flows would enable them to work on their ditches.
- There are no minimum flows established below Abiquiu, but they try to maintain a 70 cfs minimum between November and March. Sometimes they swap water with other reservoirs, such as Jemez, the Cochiti recreation pool, and water owed to the river from pumping, to maintain the 70 cfs flow.
- If there is high water on the mainstem, managers will hold back water at Abiquiu so Cochiti Lake can be evacuated. This is done to ensure that it will not have any carryover storage.
- In response to a question, Don stated that they have never inundated the houses around the reservoir.
- There is a power plant at Abiquiu that produces power for Los Alamos. Power is generated on a run of the river basis. Power generation does not directly affect river flows.
- Managers try to maintain a flow of 3000 cfs at the Chamita gage and no more than 10,000 cfs at Otowi due to limiting channel capacity.
- Flows that are maintained downstream from Abiquiu are based on the policy established in the Water Control Manual, not on statute. This manual will be updated after the Water Operations Review is completed, if needed.
- The City of Albuquerque originally had 200,000 af of storage space in this reservoir, so most of the water in Abiquiu belongs to the City. Other contractors include the City of Santa Fe, MRGCD, and others. Storage is reallocated periodically, based on the amount of sediment that takes up storage space, so Albuquerque now has approximately 170,000 af of storage for San Juan-Chama water. An additional 13,000 af storage is used by other contractors. The highest pool elevation permitted is 6220 feet for ISC water storage.
- The Corps does not have easements for permanent water storage. All easements for San Juan-Chama water are owned by the City of Albuquerque. The Corps has flood easements for temporary storage.
- The San Juan-Chama water can be evacuated from the reservoir if space is needed for flood control.

➤ Cochiti

- The purpose is flood control, sediment control, recreation, and fish and wildlife.
- Native water is bypassed.
- Flows up to 4000 cfs can be released with no problem. Releases higher than this amount are made only after considering channel conditions and problems downstream, such as the sediment accumulation at the railroad bridge at San Marcial.
- Normally, the combined releases from Cochiti and Jemez Canyon should not exceed 7800 cfs. The managers no longer hold back water to reduce flows for activities like bridge construction and surveying. When possible, the managers coordinate with other agencies to achieve additional goals, such as flooding the cottonwood seedlings in the bosque at the proper time.

- During storm events, the managers consider current flows, predicted rainfall, and channel capacity to determine how much water to release.
- The Corps has only flood easements around Cochiti.
- During the irrigation season, the managers have daily conference calls with MRGCD, FWS, and BOR to determine releases. They try to protect the delta at the upstream end of the reservoir and have occasionally reduced releases at Abiquiu to evacuate water from Cochiti to prevent carryover storage. In the past, they have held back storage at Cochiti to accommodate flooding problems below Caballo to Fort Quitman.
- Galisteo
  - The purpose is flood control, but it is ungated, so there is no flexibility in how it is managed.
- Jemez Canyon
  - The primary purpose is to trap sediment. The sediment pool is maintained by the ISC and the Corps contract for managing the reservoir expires this year.
  - Water is stored in the sediment reserve space, which still has a capacity of 24,425 af. Flood control space is 73,000 af.
  - Santa Ana Pueblo would like to see the water operations managed so there is a year-round flow downstream.
  - There has been some discussion on releasing some sediment from behind the dam to benefit the Rio Grande.
- The Corps does not operate Caballo and coordinates with IBWC on determining the channel capacity downstream.
- Don was asked whether anyone reviews the effects of changes in water operations now. Don responded that the Corps environmental staff is involved with reviewing changing operations, and occasionally environmental staff from other agencies get involved.
- ❖ Mark Yuska presented a slide show and talk on URGWOM.
  - URGWOM is a daily timestep reservoir and river simulation modeling system that involves short-term forecasting for daily water operations and long-term planning for use in the EIS and other planning activities.
  - In the upper watershed, the URGWOM Technical Team has been coordinating with Colorado to determine flows and management at Platoro.
  - It is planned that URGWOM will eventually model the physical river system down to Fort Quitman.
  - Four key aspects of URGWOM include:
    - The physical model and simulation.
    - Water accounting.
    - Rules defining reservoir operations that must comply with laws and regulations; rules have been used to define other decisions that must be made to manage reservoirs, such as those related to recreation and environmental safety.

- Methods account for functions such as evaporation, sedimentation, seepage, gains, and losses. The methods are provided by CADSWES in RiverWare.
- The model is being calibrated using the data from reservoir operations between 1985 and 1996, upper stream gage data for the period of record, middle valley itemized losses and stream gage data from 1985 to 1997.
- The Technical Team is trying to complete the lower portion of the physical model down to American Dam in El Paso by late spring. The physical model includes the routing and gains/losses in reaches, reservoir inflows and outflows, and any information not controlled by the managers.
- URGWOM is composed of four modules:
  - Accounting Model—a complete physical model designed to solve for reservoir inflows, given outflows, water elevations, weather, and other reservoir data. It deals strictly with the past, calculating all flows and storages through midnight of the previous day.
    - Input includes previous outflows, elevations, and weather data.
    - Output includes previous inflows, local inflows, and reservoir reports that go to the Water Operations Model.
  - Water Operations Model—the forecasting version of the Accounting Model uses updated historic data from the Accounting Model, along with other short-term forecast data to predict flows and storages for the future. It uses rules, as needed, to determine outflows.
    - Input includes previous inflows to present, forecast inflows, and initial reservoir storage.
    - Output includes reservoir outflows, streamflows, and expected storage.
  - Forecasting Model—takes monthly spring runoff forecasts and uses historic inflow hydrographs to create daily forecast hydrographs for each of the inflow points in the Water Operations Model. It does not involve much of the physical model, but feeds the Water Operations Model with forecast data.
    - Input includes spring runoff forecasts from NRCS.
    - Output includes daily hydrographs for all inflows.
  - Planning Model—will make use of data from the other models, but has not yet been developed. It is designed to carry out long-term forecast runs, using less detailed data and rules.
    - Input includes long-term forecasts and current conditions.
    - Output includes daily hydrographs and system conditions.
- In the middle valley (below Cochiti), data and the model are the most complex. The development of URGWOM has pointed out where additional data are needed. Some specific information modeled for the middle valley includes:
  - Diversion quantities, crop depletions, percolation, groundwater gains, canal seepage, and return flow calculations.
  - Gains and losses are calculated as a composite of return flows.



- Loss coefficients from San Acacia to San Marcial are calculated by comparing the routed flows to the difference between the actual flows at the two gages. So far, the Technical Team cannot fully account for the sometimes large losses represented in the actual gage readings, so the method for calculating loss coefficients is coarse.
  - Tod Stevenson pointed out that the large losses shown by the gage readings in September and October could be due to Bosque del Apache holding water back to flood the ponds for winter. Tod will try to get more information on this for the Technical Team.
- Current URGWOM status:
  - The Technical Team is testing the Accounting Model for 1995, 1996, and 2000.
  - Water managers plan to use the Water Operations Model to develop the Annual Operating Plan.
  - The Technical Team is developing a database to organize the data used by URGWOM.
  - Routing and gains/losses from Leasburg to American Dam in El Paso is done.
  - The physical model, down to American Dam, will be completed this spring.
- The URGWOM Technical Team needs to know more about what they can provide for the Water Operations Review. The team recognizes that the Planning Model will be needed to evaluate changes and impacts, and that better overall coordination and understanding is needed between the URGWOM modelers and the Water Operations Review technical teams.
  - A question to Mark was whether URGWOM could be used to calculate flows for different strategies. Mark replied that, yes, this could be done by either changing the rules for demands and having the model set outflows from reservoirs, or by estimating depletions for different scenarios.
  - Another question: Will standard deviations be generated by URGWOM? Yes, they can be generated but they will be large.
- ❖ Chris Gorbach and Gail Stockton updated the group on Management Team activities.
  - The Notice of Intent for the EIS was published in the Federal Register on March 7. It is available on the web through several sites if anyone would like to see it. One site through which the Federal Register can be accessed is <http://www.nara.gov/>. Much of the information in the NOI was copied from the MOA.
  - The Executive Committee met on February 29. This committee, composed of Colonel Fallin of the Corps, Norman Gaume of the ISC, and Michael Gabaldon of the Bureau of Reclamation, will provide overall project guidance and will meet at least three times a year.
    - The committee agreed to engage a facilitator, contracted by the ISC, and selected by the Joint Lead Agencies, to assist the ID NEPA Team and the technical teams.
    - The next Executive Committee meeting is scheduled for June 27.

- The Management Team is working on getting agreements developed for the cooperating agencies.
  - The City of Albuquerque is coordinating with the Water Operations EIS for their drinking water project, Abiquiu storage easements, and management of open space along the Rio Grande.
  - There are five other cooperating agencies.
- Organization of the Steering Committee is beginning. This will be composed of representatives from the cooperating agencies and key stakeholders identified by the Executive Committee. The first Steering Committee meeting is scheduled for June 13.
- Some public involvement activities are getting started.
  - There was a press release about the NOI.
  - A contractor is conducting market research to help the Management Team better target information for stakeholders. There will be telephone and personal interviews with selected stakeholders in the basin. Letters have been sent to the tribal governments to invite them to participate in the market study.
  - The Water Operations Review web site is being developed.
- ❖ Technical team updates:
  - Water Operations—Don Gallegos
    - Don Gallegos and Leann Towne are the current members. The team has had personnel changes and is trying to get organized. They have invited the MRGCD, the ISC, and the City of Albuquerque to participate.
    - Don prepared a draft history of the operations of the Corps dams.
    - The team plans to provide descriptions of water operations and projects to the other technical teams, and to identify rules for reservoir releases and the basis for those decisions.
  - Socioeconomics, Land Use, Environmental Justice, and Recreation
    - They held their first meeting today and began by outlining their plan of study.
  - Aquatic Systems—Richard Fike
    - A meeting is planned for Friday to discuss the best approach for developing an aquatic habitat model, and to decide what type of model to use and how to proceed.
    - They have developed a matrix of the resources and indicators to study in each reach to determine the conditions and impacts of changing water operations.
  - Geomorphology—Robert Padilla
    - They are proceeding with an assessment of data.
  - Water Quality—Scott Anderholm
    - Scott will be the team leader and just met Julie Tsatsavos with the NM Environment Department who will be participating on this team.
    - They discussed creating a database of water quality data to use to determine trends.
    - Gail reminded the team that they first must develop a plan of study that will help them decide what information they need and how they will conduct the analyses.

- Rolf Schmidt-Peterson is the Management Team member assigned to assist this team.
- A suggestion was made that the team members contact the pueblos to request copies of their water quality standards, which may differ from the state standards.
- The team could include a representative from EPA, as they have indicated a willingness to participate on a technical team.
- Charles Lujan, from the Pueblo of San Juan, is interested in having his water quality technical program manager participate on the technical team as an observer.
- Chris reminded the group that the technical teams should be thinking about how to discuss their resources and issues at the public scoping meetings that will begin in June
  - Technical team members will be asked to attend the meetings and to discuss what they know about the existing environment and how water operations would affect their resources of concern.



- The technical teams will need enough information by the end of April to assemble handouts and presentations for the meetings.
- Conrad Keyes suggested that the URGWOM Technical Review Committee could be used to review the information before the public meetings.



❖ The next ID NEPA meeting is scheduled for **Thursday, April 13 at 1:00 p.m.**